

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A game system performing image generation, comprising:

a memory which stores a program and data for image generating; and

at least one processor which is connected to the memory and performs processing for image generating, the processor comprising:

a geometry-processing section which performs three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space, including calculation of three-dimensional shape data for the object;

an intermediate buffer drawing section which temporarily draws an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section, the drawn image being set as a texture; and

a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer; and

wherein into the frame buffer, the frame buffer drawing section draws a primitive surface of which drawing positions are specified based on three-dimensional information associated with a position of the object in the object space and on which the image of the geometry-processed object drawn in the intermediate buffer and set as texture is texture-mapped onto the primitive surface.

2. (Canceled).

3. (Previously Presented) The game system according to claim 1,
wherein when a plurality of primitive surfaces corresponding to a plurality of objects are to be drawn into the frame buffer, the frame buffer drawing section performs hidden-surface removal between the primitive surfaces based on the depth values of the respective primitive surfaces.

4. (Previously Presented) The game system according to claim 1,
wherein the frame buffer drawing section draws a plurality of primitive surfaces of which drawing positions are specified based on the three-dimensional information of one object into the frame buffer, and makes images texture-mapped over the plurality of primitive surfaces different from one another.

5. (Currently Amended) A game system performing image generation,
comprising:

a memory which stores a program and data for image generating; and

at least one processor which is connected to the memory and performs processing for image generating, the processor comprising:

a geometry-processing section which performs three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object;

an intermediate buffer drawing section which temporarily draws an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section;

a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer;
and

an image effect section which performs a given image effect processing on the image on the intermediate buffer before the image drawn in the intermediate buffer is drawn in the frame buffer.

6. (Currently Amended) A game system performing image generation, comprising:

a memory which stores a program and data for image generating; and

at least one processor which is connected to the memory and performs processing for image generating, the processor comprising:

a geometry-processing section which performs three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object;

an intermediate buffer drawing section which temporarily draws an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section;

a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer;
and

an image synthesizing section which synthesizes an image drawn in the intermediate buffer at a present frame with another image drawn in the intermediate buffer at a past frame before the image drawn in the intermediate buffer is drawn in the frame buffer.

7. (Currently Amended) A game system performing image generation, comprising:

a memory which stores a program and data for image generating; and

at least one processor which is connected to the memory and performs processing for image generating, the processor comprising:

a geometry-processing section which performs three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object;

an intermediate buffer drawing section which temporarily draws an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section;

a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer ; and

an image synthesizing section which synthesizes an image drawn in the intermediate buffer with another image drawn in the frame buffer before the image drawn in the intermediate buffer is drawn in the frame buffer.

8. (Currently Amended) A game system performing image generation, comprising:

a memory which stores a program and data for image generating; and

at least one processor which is connected to the memory and performs processing for image generating, the processor comprising:

a geometry-processing section which performs three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object;

an intermediate buffer drawing section which temporarily draws an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section; and

a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer,

wherein the intermediate buffer drawing section draws the image of the geometry-processed object in the intermediate buffer ~~for each two frame or each M-frame ($M \geq 3$)~~ only at a discrete subset of all frames.

9. (Previously Presented) The game system according to claim 8,

wherein when the images of plural geometry-processed objects are drawn in the intermediate buffer, the intermediate buffer drawing section draws an image of a K-th object in the intermediate buffer at a N-th frame and draws an image of a L-th object in the intermediate buffer at a (N+1)-th frame without drawing the image of a new K-th object in the intermediate buffer.

10. (Currently Amended) A computer program embodied on an information storage medium, the program comprising a processing routine for a computer to realize:

a geometry-processing section which performs three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object;

an intermediate buffer drawing section which temporarily draws an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section; and

a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer, and

wherein into the frame buffer, the frame buffer drawing section draws a primitive surface of which drawing positions are specified based on three-dimensional information associated with a position of the object in the object space and on which the image of the geometry-processed object drawn in the intermediate buffer and set as texture is texture-mapped onto the primitive surface.

11. (Canceled).

12. (Previously Presented) The program according to claim 10,

wherein when a plurality of primitive surfaces corresponding to a plurality of objects are to be drawn into the frame buffer, the frame buffer drawing section performs hidden-surface removal between the primitive surfaces based on the depth values of the respective primitive surfaces.

13. (Previously Presented) The program according to claim 10,

wherein the frame buffer drawing section draws a plurality of primitive surfaces of which drawing positions are specified based on the three-dimensional information of one object into the frame buffer, and makes images texture-mapped over the plurality of primitive surfaces different from one another.

14. (Currently Amended) A computer program embodied on an information storage medium, the program comprising a processing routine for a computer to realize:

a geometry-processing section which performs three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object;

an intermediate buffer drawing section which temporarily draws an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section;

a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer; and

an image effect section which performs a given image effect processing on the image on the intermediate buffer before the image drawn in the intermediate buffer is drawn in the frame buffer.

15. (Currently Amended) A computer program embodied on an information storage medium, the program comprising a processing routine for a computer to realize:

a geometry-processing section which performs three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object;

an intermediate buffer drawing section which temporarily draws an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional

object space and the three-dimensional shape data calculated by the geometry-processing section;

a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer; and

an image synthesizing section which synthesizes an image drawn in the intermediate buffer at a present frame with another image drawn in the intermediate buffer at a past frame before the image drawn in the intermediate buffer is drawn in the frame buffer.

16. (Currently Amended) A computer program embodied on an information storage medium, the program comprising a processing routine for a computer to realize:

a geometry-processing section which performs three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object;

an intermediate buffer drawing section which temporarily draws an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section;

a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer; and

an image synthesizing section which synthesizes an image drawn in the intermediate buffer with another image drawn in the frame buffer before the image drawn in the intermediate buffer is drawn in the frame buffer.

17. (Currently Amended) A computer program embodied on an information storage medium, the program comprising a processing routine for a computer to realize:

a geometry-processing section which performs three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object;

an intermediate buffer drawing section which temporarily draws an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section; and

a frame buffer drawing section which draws the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer, and

wherein the intermediate buffer drawing section draws the image of the geometry-processed object in the intermediate buffer ~~for each two frame or each M-frame ($M \geq 3$) only at a discrete subset of all frames.~~

18. (Previously Presented) The program according to claim 17,

wherein when the images of plural geometry-processed objects are drawn in the intermediate buffer, the intermediate buffer drawing section draws an image of a K-th object in the intermediate buffer at a N-th frame and draws an image of a L-th object in the intermediate buffer at a (N+1)-th frame without drawing the image of a new K-th object in the intermediate buffer.

19. (Currently Amended) An image generation method for generating an image, comprising:

geometry-processing to perform three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object;

temporarily drawing an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section, the drawn image being set as a texture; and

drawing the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer, and

wherein a primitive surface, of which drawing positions are specified based on three-dimensional information associated with a position of the object in the object space and on which the image of the geometry-processed object drawn in the intermediate buffer and set as texture is texture-mapped, is drawn into the frame buffer.

20. (Canceled).

21. (Previously Presented) The image generation method according to claim 19, wherein when a plurality of primitive surfaces corresponding to a plurality of objects are to be drawn into the frame buffer, hidden-surface removal between the primitive surfaces is performed based on the depth values of the respective primitive surfaces.

22. (Previously Presented) The image generation method according to claim 19, wherein a plurality of primitive surfaces of which drawing positions are specified based on the three-dimensional information of one object are drawn into the frame buffer, and images texture-mapped over the plurality of primitive surfaces are different from one another.

23. (Currently Amended) An image generation method for generating an image, comprising:

geometry-processing to perform three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object;

temporarily drawing an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section; and

drawing the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer, and

wherein a given image effect processing on the image on the intermediate buffer is performed before the image drawn in the intermediate buffer is drawn in the frame buffer.

24. (Currently Amended) An image generation method for generating an image, comprising:

geometry-processing to perform three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object;

temporarily drawing an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section; and

drawing the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer, and

wherein an image drawn in the intermediate buffer at a present frame is synthesized with another image drawn in the intermediate buffer at a past frame before the image drawn in the intermediate buffer is drawn in the frame buffer.

25. (Currently Amended) An image generation method for generating an image, comprising:

geometry-processing to perform three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object;

temporarily drawing an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section; and

drawing the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer, ~~and~~

wherein an image drawn in the intermediate buffer is synthesized with another image drawn in the frame buffer before the image drawn in the intermediate buffer is drawn in the frame buffer.

26. (Currently Amended) An image generation method for generating an image, comprising:

geometry-processing to perform three-dimensional perspective transformation on an object being set in an object space specified in a three-dimensional space including calculation of three-dimensional shape data for the object;

temporarily drawing an image of a geometry-processed object in an intermediate buffer in place of drawing the image in a frame buffer using three-dimensional

viewpoint information provided in the three-dimensional object space and the three-dimensional shape data calculated by the geometry-processing section; and

drawing the image of the geometry-processed object drawn in the intermediate buffer from the intermediate buffer into the frame buffer, and

wherein the image of the geometry-processed object in the intermediate buffer is drawn ~~for each two frame or each M frame (M \geq 3)~~ only at a discrete subset of all frames.

27. (Previously Presented) The image generation method according to claim 26,

wherein when the images of plural geometry-processed objects are drawn in the intermediate buffer, an image of a K-th object in the intermediate buffer is drawn at a N-th frame and an image of a L-th object in the intermediate buffer is drawn at a (N+1)-th frame without drawing a new image of the K-th object in the intermediate buffer.